

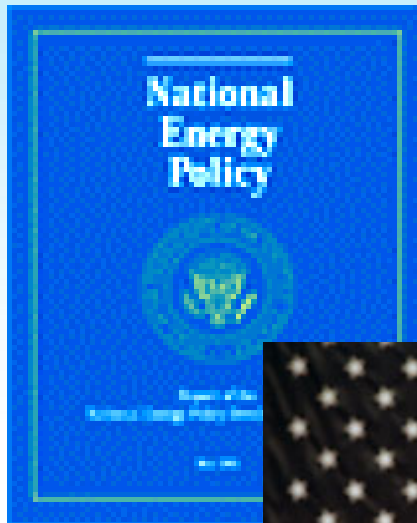
# **Planning for Energy Efficiency In Your Programs**

***FY 2006 SuperNOFA Satellite  
Broadcast***

***April 20, 2006***

# Background and General Requirements

# National Energy Policy



White House by Eric Draper

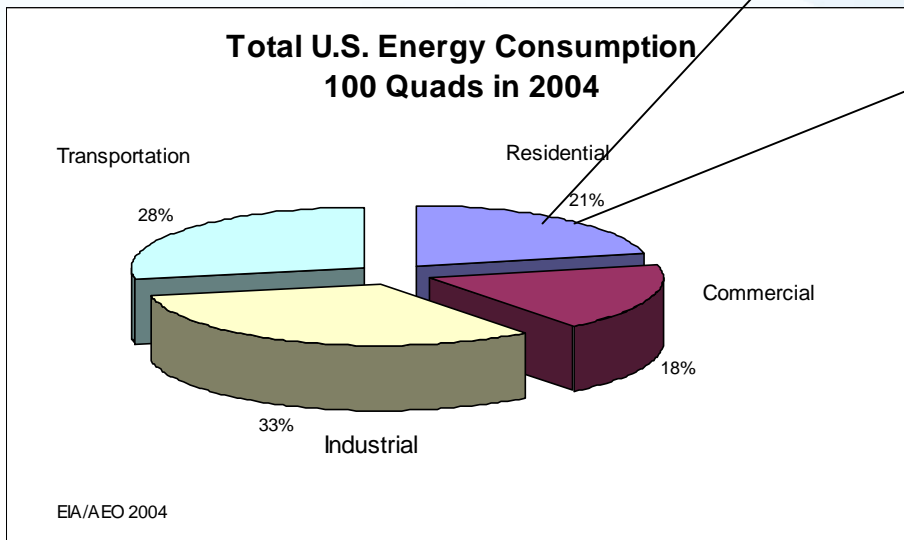
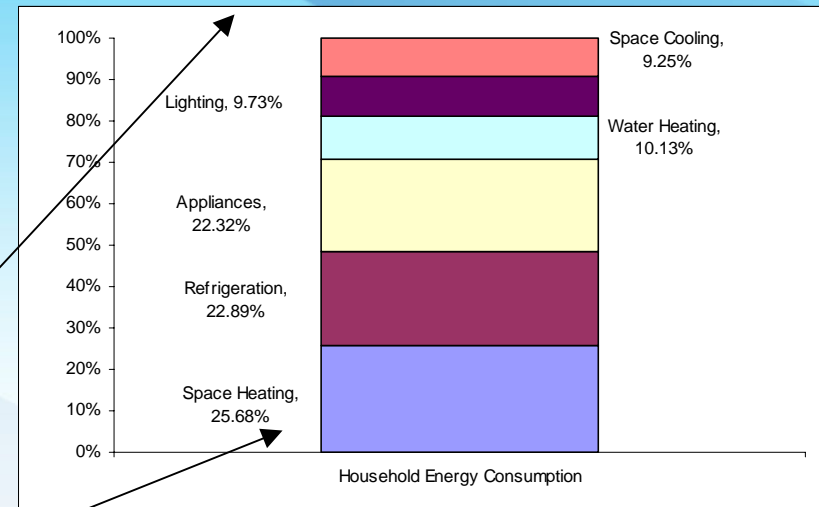
“Conservation and energy efficiency are crucial components of a national energy plan. ***Greater energy efficiency helps the United States reduce the likelihood of energy shortages, emissions and the volatility of energy prices.***”

*May 2001*

# Energy Use in Residential Sector

In 2004, residential sector

- consumed 21% of U.S. energy
- contributed 17% of U.S. greenhouse gas emission



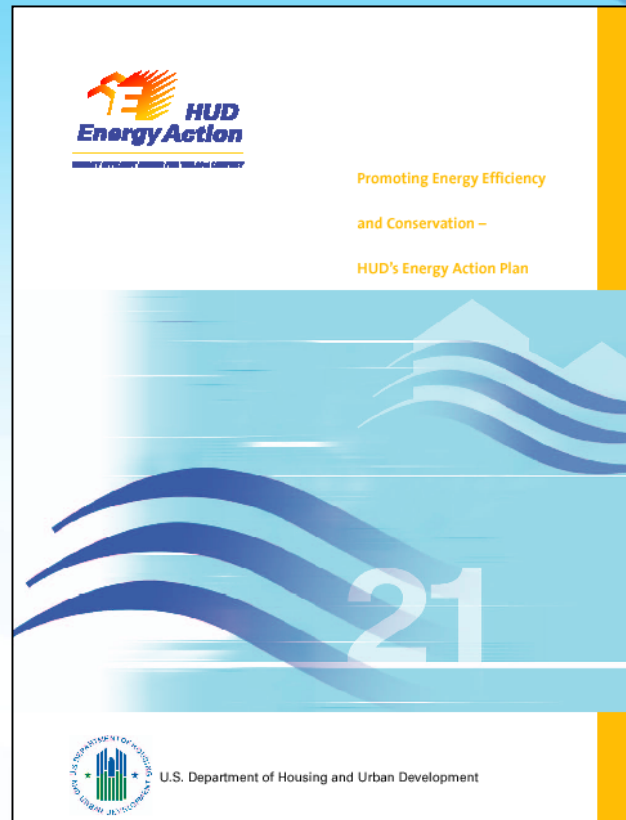
Household energy consumption  
is spread across 6 major uses

## Homes and Apartments Use 20% of Total U.S. Energy

- ◆ Americans spend \$161 billion in homes
- ◆ Residential energy use expected to grow by 20% by 2020
- ◆ Average family spends \$1,338/year on energy
- ◆ Electricity accounts for 61% of energy use
- ◆ Significant reductions 1978-87, but little since: average home uses 101 million Btus
- ◆ Homes getting bigger – 1/3 BIGGER than in 1970
- ◆ More appliances!

# HUD Spends An Estimated \$4 Billion on Utilities

- ◆ More than 10% of entire budget
- ◆ Estimated \$1.1 billion directly through public housing operating subsidies
- ◆ Remainder through utility allowances (Housing Choice Vouchers) or Section 8 multifamily contracts
- ◆ Also impacts new construction through HOME, CDBG, HOPE VI, and elderly housing
- ◆ Approximately 5 million units nation-wide



[www.hud.gov/energy](http://www.hud.gov/energy)



# Incentives for Energy Efficiency in SuperNOFA

- ◆ Assisted Living Conversion Program
- ◆ Section 202 and 811
- ◆ Youthbuild, SHOP and BEDI
- ◆ Indian Community Development Block Grant
- ◆ Rural Housing and Economic Development
- ◆ Lead Based Paint and Healthy Homes
- ◆ HOPWA
- ◆ Housing Counseling
- ◆ Neighborhood Networks and ROSS
- ◆ University Partnerships



# Energy Efficiency Policy Priority

- ◆ Promote energy efficiency in HUD's affordable housing programs, including public housing, HUD-insured housing, and housing financed through HUD formula and competitive programs
- ◆ Applicants building, rehabilitating, or maintaining housing or community facilities are encouraged to promote energy efficiency in design and operations
- ◆ Applicants encouraged to purchase and use products that display the Energy Star label
- ◆ Applicants providing housing assistance or counseling services are encouraged to promote Energy Star products, practices, and housing built to Energy Star standards, to homebuyers and renters

# General Section Activities

- ◆ Develop Energy Star promotional and information materials
- ◆ Provide outreach to low- and moderate-income renters and buyers on the benefits and savings of Energy Star products and appliances
- ◆ Utilize Energy Star-designated products in the construction or rehabilitation of housing units, and replacing worn products or facilities, such as light bulbs, water heaters, furnaces, etc., with Energy Star products to reduce operating costs
- ◆ Communities and developers are encouraged to promote the designation of community buildings and homes as Energy Star compliant

# Energy Star Products and Appliances

*Presenter:*

Richard Karney  
Department of Energy

# Energy Star Qualified New Homes

*Presenter:*

David Lee

U.S. Environmental Protection Agency

# Individual Program Requirements

# Energy Efficiency Scoring

Housing Construction and Rehabilitation Programs	
Assisted Living Conversion	2 points
Section 202 for the Elderly	1 point
Section 811 for Disabled Persons	1 Point
Youthbuild	1 Point
Self-Help Homeownership Opportunities Program (SHOP)	1 Point

# Assisted Living Conversion Program

- ◆ **2 rating points for Energy Star**
- ◆ **Evaluation Standard**
  - Include energy efficiency in the design and operation of the proposed housing through the use of Energy Star appliances and products



## Section 202/811 Housing

- ◆ **1 rating point for Energy Star**
- ◆ **Design and Cost Standards**
  - Promote energy efficiency in the design and operation of the proposed housing
- ◆ **Exhibits**
  - Include plans describing energy-efficient features in the operation of the project, including the use of Energy Star-labeled products and appliances
  - Include plans for using innovative construction or rehabilitation methods or technologies to promote efficient construction

# Youthbuild and SHOP

- ◆ **Youthbuild – 1 rating point for Energy Star**
  - Describe how Energy Star priority is enhanced by proposed activities
- ◆ **SHOP – 1 rating point for Energy Star**
  - Describe how planned activities further Energy Star policy priority

# Energy Efficiency Scoring

Community and Economic Development Programs	
Brownfields Economic Development (BEDI)	1 point
Indian Community Development Block Grant (ICDBG)	1 point
Rural Housing Economic Development (RHEDP)	1 Point

# Brownfields Economic Development Initiative (BEDI)

## ◆ 1 point for Energy Star

- Describe how project will utilize energy-efficient solutions in the design or operation of project, including the purchase and use of Energy Star-labeled products and/or Combined Heat and Power (CHP, or cogeneration) in buildings

# Indian Community Development Block Grant Program

- ◆ **1 point for Energy Star OR Improving Our Nation's Communities**
  - Describe how project meets one of two policy priorities:  
"Energy Star" OR "Improving Our Nation's Communities"
- ◆ **Housing Standard**
  - Provide for an energy efficient building and systems that incorporate energy conservation measures
- ◆ **Eligible Activities**
  - Assistance to Community Based Development Organizations to undertake energy conservation activities
  - Energy Efficiency activities associated with Housing Rehabilitation or Public Facilities and Improvements

# Rural Housing Economic Development

## ◆ 1 point for Energy Star

## ◆ Eligible Activities

- Cost of using new or innovative construction, energy efficiency, or other techniques that will result in the design or construction of innovative housing
- "*Innovative Housing Activities*" means projects, techniques, methods...construction materials, **energy efficiency improvements**, or financing institutions or sources new to the eligible area or to its population

## ◆ Outcome Measures

- Outcomes include annual estimated savings for low income families as a result of energy efficiency improvements

# Energy Efficiency Scoring

Specialized Housing and Homeownership Programs	
Continuum of Care	Checklist
HOPWA (Housing Opportunities for Persons With Aids)	1 point
Lead-Based Paint Healthy Homes Demonstrations	1 Point
Housing Counseling	1 Point



# Continuum of Care

## ◆ Participation in Energy Star

- All McKinney-Vento projects are encouraged to promote energy efficiency, and are specifically encouraged to purchase and use Energy Star-labeled products

## ◆ Complete Exhibit Questionnaire

- Have you notified CoC members of the Energy Star Initiative \_ Yes \_ No
- Percentage of CoC projects on CoC Priority Chart using Energy Star appliances

# Continuum of Care

## **AA: CoC Participation in Energy Star Chart**

HUD promotes energy-efficient housing. All McKinney-Vento funded projects are encouraged to promote energy efficiency, and are specifically encouraged to purchase and use Energy Star labeled products. For information on the Energy Star initiative go to: <http://www.energystar.gov>.

Have you notified CoC members of the Energy Star initiative? ☐ Yes ☐ No

Percentage of CoC projects on CoC Priority Chart using Energy Star appliances:  
%

CoC-AA

# HOPWA

## ◆ 1 rating point for Energy Star

- Applicants must make a commitment to promote energy efficiency by adopting the Energy Star standard in any new construction, or rehabilitation activity, or maintaining housing or community facilities undertaken with HOPWA or other funds
- Applicants encouraged to develop energy star promotional and information materials and provide outreach to low and moderate-income renters and buyers on the benefits and savings when using Energy Star products.

# Lead Based Paint Hazard Control

## ◆ 1 rating point for Energy Star

- Applicants encouraged to integrate the grant program with housing rehabilitation, maintenance, weatherization, and other energy conservation activities
- Explain how the proposed program will integrate and stage proposed lead hazard control activities with rehabilitation, weatherization, or healthy homes demonstration
- Applicants expected to implement Energy Star building techniques and utilize Energy Star appliances whenever activities in the grant afford the opportunity

# Healthy Home Demonstration Programs

◆ 1 rating point for Energy Star

◆ **Eligible Activities**

- Rehabilitation activities to effectively control housing-based health hazards, without which the intervention could not be completed and maintained
- Comment: Home Performance with Energy Star initiative promotes healthy homes.

# Housing Counseling

## ◆ Policy Priority - 1 rating point for Energy Star

- Describe how you promote or plan to promote Energy Star materials and practices and buildings built to Energy Star qualifications to homebuyers, renters and other applicable counseling clients
- Describe any outreach activities previously conducted and/or planned to promote Energy Star products.

# Energy Efficiency Scoring

## Public Housing and Resident Programs

Public Housing Neighborhood Networks

1 Point

Resident Opportunities Self Sufficiency

No Points

University Partnerships

1 Point



# Neighborhood Networks

## ◆ 1 rating point for Energy Star

- Applicants encouraged to promote activities listed in General Section
  - Promote energy efficiency in project design & operations
  - Purchase and use Energy Star labeled products
  - Promote buildings built to Energy Star standards to homebuyers and renters
  - Develop Energy Star promotional and information materials
  - Conduct outreach on the benefits and savings when using Energy Star products and appliances
  - Promote the designation of community buildings and homes as Energy Star compliant

# ROSS Program

## ◆ No policy priority points specified

### ● Applicants encouraged to promote activities listed in General Section

- Promote energy efficiency in project design & operations
- Purchase and use Energy Star labeled products
- Promote buildings constructed to Energy Star standards to homebuyers and renters
- Develop Energy Star promotional and information materials
- Conduct outreach on the benefits and savings when using Energy Star products and appliances
- Promote the designation of community buildings and homes as Energy Star compliant

# University Partnership Programs

## ◆ 1 rating point for Energy Star

- Historically Black Colleges and Universities (HBCU)
- Hispanic Serving Institutions (HSIAC)
- Alaska Native/Native Hawaiian Institutions

## ◆ Eligible Activities

- Assistance to community-based development organizations (CBDO) to carry out energy conservation projects
- Public service activities contributing to energy conservation

# Addressing Energy Star in Your Application

# For New Construction or Substantial Rehabilitation

- ◆ Adopt Energy Star Qualified New Homes
- ◆ Purchase Energy Star products and appliances, including lighting, refrigerators, clothes washers, furnaces, windows, doors and other Energy-Star rated appliances
- ◆ Applies also to single family construction and low-rise (3 stories or less) multifamily

# For Mod Rehab or Home Repairs

- ◆ Purchase Energy Star-labeled products or appliances
- ◆ Include Energy Star lighting, refrigerators, clothes washers, windows, doors and windows, and other relevant Energy Star-labeled products and appliances

# For Building Maintenance and Operations

- ◆ Purchase Energy Star products and appliances
- ◆ Include Energy Star lighting, refrigerators, clothes washers, windows, doors and windows, and other relevant Energy Star–labeled products and appliances



## For Housing Counseling

- ◆ Provide information to home buyers about utility costs, energy efficiency and Energy Star
- ◆ Educate home buyers about costs and benefits of buying Energy Star and value of sound energy management practices

## For Multifamily Buildings

- ◆ Consider adopting ASHRAE 90.1 Appendix G (2004 Revision) plus 20 percent as standard for new construction
- ◆ Apply to medium or high rise (more than 3 stories)
- ◆ Purchase Energy Star products and appliances

# Reducing Costs Through Bulk Purchasing

Public Housing Energy Conservation Clearinghouse: ENERGY STAR® Bulk Purchasing for HUD - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Print

Address http://www.hud.gov/offices/pih/programs/ph/phecc/bulkpurchase.cfm Go Links

## Homes & Communities

U.S. Department of Housing and Urban Development

**Public and Indian Housing**

- Public housing
- PHECC
  - PIH Utility Policies
  - Incentives & Funding
  - Utility Allowances
  - Success Stories
  - Cost Reduction Toolbox
  - Energy Star, etc.
  - Training & Conferences
  - Resources & Links
  - Newsletter
  - Contact Us

HUD news

Homes

Communities

Working with HUD

Resources

Tools

- Webcasts
- Mailing lists
- Contact us
- Help

**FIRSTGov.gov**  
The U.S. Government's Official Web Portal

**Public and Indian Housing**

En español | Text only | Search/index

## ENERGY STAR® Bulk Purchasing for HUD

This information has been developed to help public housing authorities, managers of assisted housing, and other HUD grantees to cost-effectively procure energy efficient products. It currently focuses on refrigerators, but may be expanded to address other appliances and lighting products. HUD encourages housing owners, managers, and residents to look for the ENERGY STAR when purchasing products. Get started with the bulk purchasing [5 Step Checklist](#).

**About ENERGY STAR**

ENERGY STAR is a voluntary labeling program designed to identify and promote energy efficient products and appliances. ENERGY STAR-labeled products save energy and money and protect the environment. Improving energy efficiency in HUD-financed and HUD-assisted housing can generate significant savings for property owners and building residents.

Jointly administered by the US Environmental Protection Agency (EPA) and the US Department of Energy (DOE), ENERGY STAR labels the most efficient new homes and buildings and a wide range of residential and commercial products.

**How the Program Works**

Use the information provided to contact [participating partners](#) and negotiate a bulk purchasing plan that works for your agency.

[Information by State](#)
[Print version](#)
[Email this to a friend](#)

**Jump to...**

- [5 Step Checklist](#)
- [Bulk Purchasing Partners](#)

Done

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# Best Practices

# HOME Program Builds Energy Star Houses

- ◆ Fitchburg, Massachusetts
- ◆ Single Family Home
- ◆ Certified Energy Star  
by a Home Energy  
Rating(HERS) Contractor
- ◆ Cost of certification borne  
by utility company





# Energy Star Houses in Illinois



- ◆ Dekalb, Illinois
- ◆ Single Family Townhouse
- ◆ Certified Energy Star
- ◆ Builder covers certification cost to remain an Energy Star Partner.

# Claretion Associates, Cook County IL



**Claretian Associates**  
**South Chicago, IL**

## ◆ Panelized Structural Insulated Panel Construction

- R-24 Walls
- R-40 Roofs

## ◆ Other:

- 92 AFUE Furnaces
- Mastic Sealed Ducts
- 1.2-kW PV Solar Systems
- Low-e Windows
- EnergyStar Appliances
- Compact Fluorescent Lighting
- Controlled Ventilation



## *American YouthWorks' Casa Verde Builders, Austin, TX*



- 90 Green-Built Homes
- 30-50% Less Energy
- Quality, Low Maintenance



# Plaza Apartments, San Francisco

## *Permanent Housing for Homeless*



- ◆ 106 units, New Construction - Single Room Occupancy
- ◆ Project Costs: \$22 million
- ◆ Funding Sources: LIHTC, San Francisco Redevelopment Authority
- ◆ Energy Saving Measures: Energy Star appliances, equipment, lighting and windows; PV Solar system; ultra low flow plumbing
- ◆ Green Building Measures: Meets Enterprise Green Underwriting criteria
- ◆ Energy Savings: Building achieves an Energy Star Standard; Estimated Per household savings: \$350 per year

# Positive Match, San Francisco

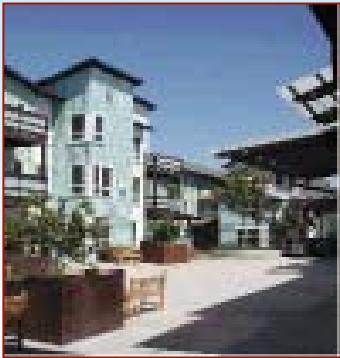
## *Housing for Formerly Homeless Mothers with HIV/AIDS*



- ◆ 7 residential units: Acquisition/Rehabilitation
- ◆ Project Cost: \$3,400,110 including \$285,500 for Green Building & Energy Efficiency
- ◆ Sources: HOPWA, SHP, LISC, and Bernal Heights neighborhood center
- ◆ Energy Saving Measures: Energy Star refrigerators; HVAC controls
- ◆ Green Measures: Materials responsive needs of for immune deficient residents, No VOC paint, hydronic heating & cooling;
- ◆ Estimated Energy Savings: \$420 annually (Energy savings derived from Energy Star Refrigerators)

# Chestnut Linden Court, West Oakland

## HOPE VI



- ◆ 151 unit, HOPE VI new construction
- ◆ Project Cost: \$56 million
- ◆ Funding Sources: HOPE VI, LIHYC, City of Oakland, CalHFA, AHP; PGE energy rebates
- ◆ Energy Measures: Energy Star appliances, equipment, lighting, and windows; Two 31.5kWH PV Solar systems; 94% high efficiency 260 gallon water heating
- ◆ Energy Savings: Project achieves Energy Star Standard;
  - PV systems savings: \$9,690/yr
  - Consumption Savings: 102,000kWh/yr



# Emeryville Resourceful Building Affordable Single Family



- ◆ 3 unit infill project,
- ◆ Project Cost: \$731,300, including \$243,000 for Green Building and energy improvements
- ◆ Funding Sources: Emeryville Redevelopment Agency, County Reduction and Recycling Board, Waste Management Authority
- ◆ Energy Measures: High efficiency furnace, low-e windows, R-20 spray wall insulation, high efficiency duct work, CFLs, low-flow water, and hot water heating blanket
- ◆ Energy Savings: Project 33% more efficient than Title 24 (CA Building Code)
  - Project annual energy savings: \$546/yr

## Outlook Construction, Atlanta GA



- ◆ **Panelized Advanced Framing 2 x 6 Walls @24" OC**
- ◆ **Low-e Windows**
- ◆ **Foamed Stud Cavities with Blown in Cellulose (R-23)**
- ◆ **Inside-The Envelope AHU**
- ◆ **Foamed and Insulation Buried Ducts**
- ◆ **Affordable and Starter Homes**
- ◆ **HERS 89**

Outlook Construction  
Atlanta, GA

# For Further Information

- **[www.hud.gov/energy](http://www.hud.gov/energy)**
  - HUD Energy Action Plan
- **[www.hud.gov/offices/pih](http://www.hud.gov/offices/pih)**
  - Public Housing Energy Conservation Clearinghouse
- **[www.hud.gov/offices/cpd](http://www.hud.gov/offices/cpd)**
  - CPD's energy web site



- **[www.energysavers.gov](http://www.energysavers.gov)**
  - Government-wide portal for energy information
- **[www.energystar.gov](http://www.energystar.gov)**
  - EPA's Energy Star web site
- **[www.hud.gov/offices/cpd/library/energy/index.cfm](http://www.hud.gov/offices/cpd/library/energy/index.cfm)**
  - "Energy Star for Grantees" (CDBG/HOME) 2006
- **[www.pathnet.org](http://www.pathnet.org)**
  - Partnership for Advancing Technology in Housing